

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THEODOR GRASER, OLAF JACH,
HANS-JORG RENZ, HARALD NEUMANN
and ANTON HANS

Appeal No. 2002-0706
Application 09/194,773¹

ON BRIEF

Before PAK, WARREN, and MOORE, Administrative Patent Judges.
PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 13, 14 and 24. Claims 15 through 23, the remaining claims in the above-identified application, were objected to, but were indicated to be allowable

¹ Application for patent filed March 31, 1999.

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if rewritten in independent form. See the final Office action dated October 10, 2000, Paper No. 9.

APPEALED SUBJECT MATTER

The subject matter on appeal is directed to a method of manufacturing a ceramic oxygen sensor in which the edges of the sensor is blunted (chamfered) prior to being subjected to sintering. In this regard, the appellants state (the specification, pages 2-3) that:

The method according to the present invention offers...the advantage that blunting of the edges of the sensing element **may** be accomplished in a simple manner without the risk of impairing the sensing element. The edges of the sensing element are blunted prior to sintering, as a result, it is possible to blunt the edge in any desired geometry using simple, non-chip-removing method. (Emphasis added.)

Details of the appealed subject matter are illustrated in claim 13 which is reproduced below²:

² According to appellants (Brief, page 5), "[c]laims 13, 14 and 24 stand or fall together." Therefore, for purposes of this appeal, we select claim 13 and determine the propriety of the examiner's rejection based on this claim alone consistent with 37 CFR § 1.192(c)(7) (2001). See *In re McDaniel*, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) ("If the brief fails to meet either requirement [of 37 CFR § 1.192(c)(7)(2001)] the Board is free to select a single claim from each group of claims (continued...)

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13. A method for manufacturing a sensing element for determining oxygen content in exhaust gases for an internal combustion engine, comprising the steps of:

blunting edges of a composite arrangement for use as the sensing element to increase a thermal shock resistance of the sensing element; and

sintering the composite arrangement to yield the sensing element, the composite arrangement including at least one ceramic paste present in film form.

PRIOR ART

The examiner relies on the following prior art references:

| | | |
|------------------------------|-----------|-----------------------|
| Kurishita et al. (Kurishita) | 5,144,249 | Sep. 1, 1992 |
| Nenadic et al. (Nenadic) | 5,871,313 | Feb. 16, 1999 |
| | | (Filed Mar. 14, 1997) |

REJECTION

Claims 13, 14 and 24 stand rejected under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Kurishita and Nenadic.

²(...continued)
subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim.").

OPINION

We have carefully reviewed the claims, specification and prior art, including all of the arguments advanced by both the examiner and the appellants in support of their respective positions. This review has led us to conclude that the examiner's Section 103 rejection is well founded. Accordingly, we will sustain the examiner's Section 103 rejections for the reasons set forth in the Answer and below.

The examiner finds (the Answer, page 4), and the appellants acknowledges (the specification, page 2) that Kurishita teaches chamfering (blunting) the edges of a sintered ceramic sensor for determining the oxygen content in exhaust gases of internal combustion engines. See also Kurishita, the abstract and column 2, line 63 to column 3, line 47. Chamfering, according to column 3, lines 6-23, of Kurishita, is effective in releasing thermal stress from the sintered ceramic oxygen sensor.

The examiner recognizes that Kurishita does not expressly mention that chamfering is carried out prior to sintering the ceramic oxygen sensor. See the Answer, page 4. To remedy this deficiency, the examiner relies on the disclosure of Nenadic. We observe that Nenadic, like Kurishita, is directed to chamfering the edges of ceramic substrates. See the abstract, together with

column 2, lines 10-17. The examiner finds (the Answer, page 4), and we agree, that Nenadic also "discloses that the most cost effective method of producing chamfered substrates is to chamfer the parts in 'green' or unfired state." See Nenadic, column 1, line 65-67.

Under these circumstances, we concur with the examiner that one of ordinary skill in the art would have been led to chamfer the ceramic oxygen sensor of the type described in Kurishita prior to sintering, using techniques, such as the one taught by Nenadic, motivated by a reasonable expectation of successfully obtaining the advantages stated in Nenadic. See, e.g., *In re Thompson*, 545 F.2d 1290, 1294, 192 USPQ 275, 277 (CCPA 1976); *In re Clinton*, 527 F.2d 1226, 1229, 188 USPQ 365, 367 (CCPA 1976).

The appellants take the position that the Nenadic reference is nonanalogous art and that, therefore, it is improperly combined with the Kurishita reference. See the Brief, page 8 and the Reply Brief, page 4. In support of this position, the appellants assert that the Nenadic reference, unlike the claimed subject matter, is not directed to a method of manufacturing a ceramic oxygen sensor. *Id.*

The test of whether a prior art reference is from an analogous art is first, whether it is within the field of the inventor's endeavor, and second, if it is not, whether it is reasonably pertinent to the particular problem with which the inventor was involved. See *In re Clay*, 966 F.2d 656, 658-59, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992); *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979). "A [prior art] reference is reasonably pertinent if, even though it may be in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commanded itself to an inventor's attention in considering his [or her] problem." *In re Clay*, 966 F.2d at 659, 23 USPQ2d at 1061. Whether a prior art reference is from an analogous art is a question of fact. *In re Paulsen*, 30 F.3d 1475, 1481, 31 USPQ2d 1671, 1675 (Fed. Cir. 1994).

In the present case, we see no reason to disturb the examiner's finding that the Nenadic reference is from an analogous art. The Nenadic reference, like the claimed invention and Kurishita, is directed toward the problem associated with blunting or chamfering the edges of a ceramic substrate as indicated *supra*. Although the Nenadic reference does not specifically mention chamfering a ceramic oxygen sensor, its

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method is not limited to any particular substrates. Rather, it is directed to improving the chamfering of the edges of any ceramic substrates which are inclusive of the claimed ceramic oxygen sensor. See column 2, lines 10-17. Thus, from our perspective, it would have logically commended itself to the inventors who are interested in improving the chamfering of the edges of a ceramic oxygen sensor.

In view of the foregoing, we concur with the examiner that the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103. Accordingly, we affirm the examiner's decision rejecting all of the claims on appeal under 35 U.S.C. § 103.

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No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED

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| CHUNG K. PAK |) | |
| Administrative Patent Judge |) | |
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| |) | BOARD OF PATENT |
| CHARLES F. WARREN |) | APPEALS AND |
| Administrative Patent Judge |) | INTERFERENCES |
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| |) | |
| JAMES T. MOORE |) | |
| Administrative Patent Judge |) | |

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